

5-30-2014

To: Jim Pease
Vermont Department of Environmental Conservation
Watershed Management Division
1 National Life Drive, Main 2
Montpelier VT 05620-3522

RE: *Pine Haven Shores*

ATTACHMENTS: **A-1: LID Site Map**
A-1: LID Site Reports

Dear Jim:

Watershed Consulting Associates, LLC (WCA) has completed an initial study of Low Impact Development (LID) opportunities within the Pine Haven Shores (PHS) watershed and have found some potential retrofit opportunities.

We initially used a desktop survey of topography and impervious surfaces to identify potential locations and drainage areas based on GIS contours and mapped stormwater infrastructure. We then conducted field work to verify the drainage area boundaries with respect to on-the-ground topography and field verified any stormwater infrastructure pathways that might affect those drainages. Potential LID retrofit locations were measured and evaluated for potential development with respect to ease of construction, ease of directing runoff waters to the desired site without excessive site work, utility conflicts, access, and a variety of other factors that we have summarized in Attachment A-2: LID Site Reports.



Potential LID practice area on Allen Road in South Burlington.

All of these sites are presented in map form on Attachment A-1: LID Sites.

Though these practices are dispersed and many are located on private property, there is definitely the potential, based on our desktop and field evaluations, for these projects to make an impact on the overall runoff volume in the watershed. In the identification of 25 sites for potential LID stormwater practices, we identified over 10 acres of impervious surfaces that could potentially be disconnected out of the total 40+ acres of impervious surface within the watershed.

SUMMARY AND POTENTIAL BENEFITS:

In examining options for dispersed stormwater treatment in the PHS watershed, WCA came up with 25 sites that could potentially be re-developed to treat stormwater using a variety of low-impact development practices.

As a group, all the practices together could treat 10.6 acres of impervious surfaces within the watershed, representing 24% of all impervious surfaces within the watershed. See Table 1.

LID Alternatives	
Total Acres	127
Impervious Acres	45.03
% Total Watershed	35.45%
% Watershed Impervious Potentially Treated by LID	23.54%

Table 1: LID Alternatives for the PHS Watershed. Of the 45 total impervious acres within the watershed, 10.6 acres could relatively easily be treated by dispersed LID practices.

The individual sites are presented in Table 2, ranked by overall watershed size.

Site ID	Area (ac)	Impervious %
Tridyne Process Systems	2.65	28.06%
Pine Haven Shores Dr 2	2.57	49.22%
Triomed	2.15	20.78%
Pine Haven Shores Dr 1	1.91	60.02%
North Star Motel	1.31	51.18%
So Burlington Suzuki	1.10	79.20%
Shelburne Steakhouse 2	0.98	31.21%
Reel Hospitality	0.77	64.29%
Shelburne Steakhouse 1	0.67	95.29%
Pet Food Warehouse	0.61	90.47%
Thai Cafe 1	0.49	85.09%
Thai Cafe 3	0.48	90.27%
Paulines 1	0.45	80.48%
Shell Station	0.43	90.81%
Leaps and Bounds 2	0.35	98.43%
KL Mtn Shop 2	0.33	47.36%
KL Mtn Shop 1	0.30	64.30%
Mobil Station	0.29	99.67%
Locust Hill 1	0.26	100.00%
Leaps and Bounds 1	0.22	65.18%
Paulines 2	0.17	45.51%
GGT Tibet Inn	0.17	81.85%
Thai Cafe 2	0.16	45.97%
Locust Hill 2	0.13	100.00%
Paulines 3	0.08	86.30%

Table 2: Potential LID Practice watersheds ranked by overall size.

While none of these practices will individually solve the stormwater runoff issues currently facing the PHS watershed, we believe that implementing site-specific, small-scale practices on these sites could reduce the overall runoff volume that regularly flows through the storm sewer to outlet into the Lake via the Nesti Swale. Implementing these practices would also assist in extending the potential life-cycle of ‘gray’ stormwater infrastructure by reducing flows and pollutant mass loading to those systems.

NEXT STEPS:

This analysis represents a ‘first-cut’ estimate of potential LID projects within the watershed. While we believe the drainage areas to be correct, topographically and with respect to stormwater infrastructure, we have not modeled them quantitatively to determine the exact volume and pollutant load reductions associated with each. We have also not approached individual property owners to determine their

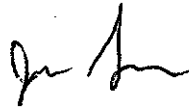
willingness to participate in any of these projects, nor have we evaluated the potential for land use change on these sites. We have also not determined any cost/benefit ratios for these sites. If there is a desire to move ahead with any or all of these projects, the most beneficial next step would be to prioritize them based on potential volume and load reductions, develop a rough cost/benefit ratio for each, and then begin to contact individual property owners where appropriate.

Please let me know if you have any questions or would like to discuss these projects individually or as a group.

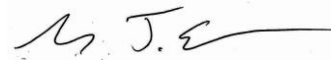
Sincerely on behalf of the project team,



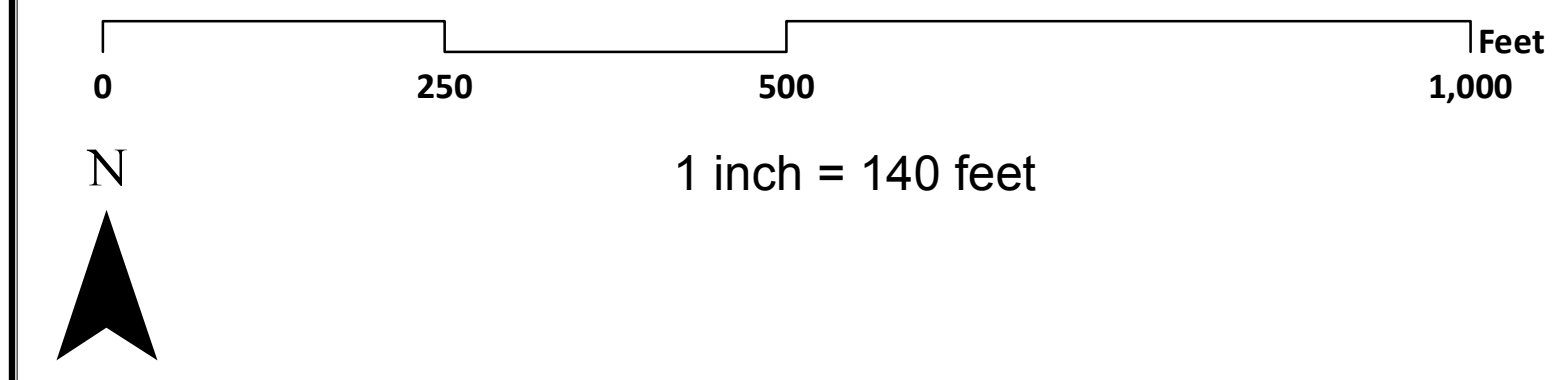
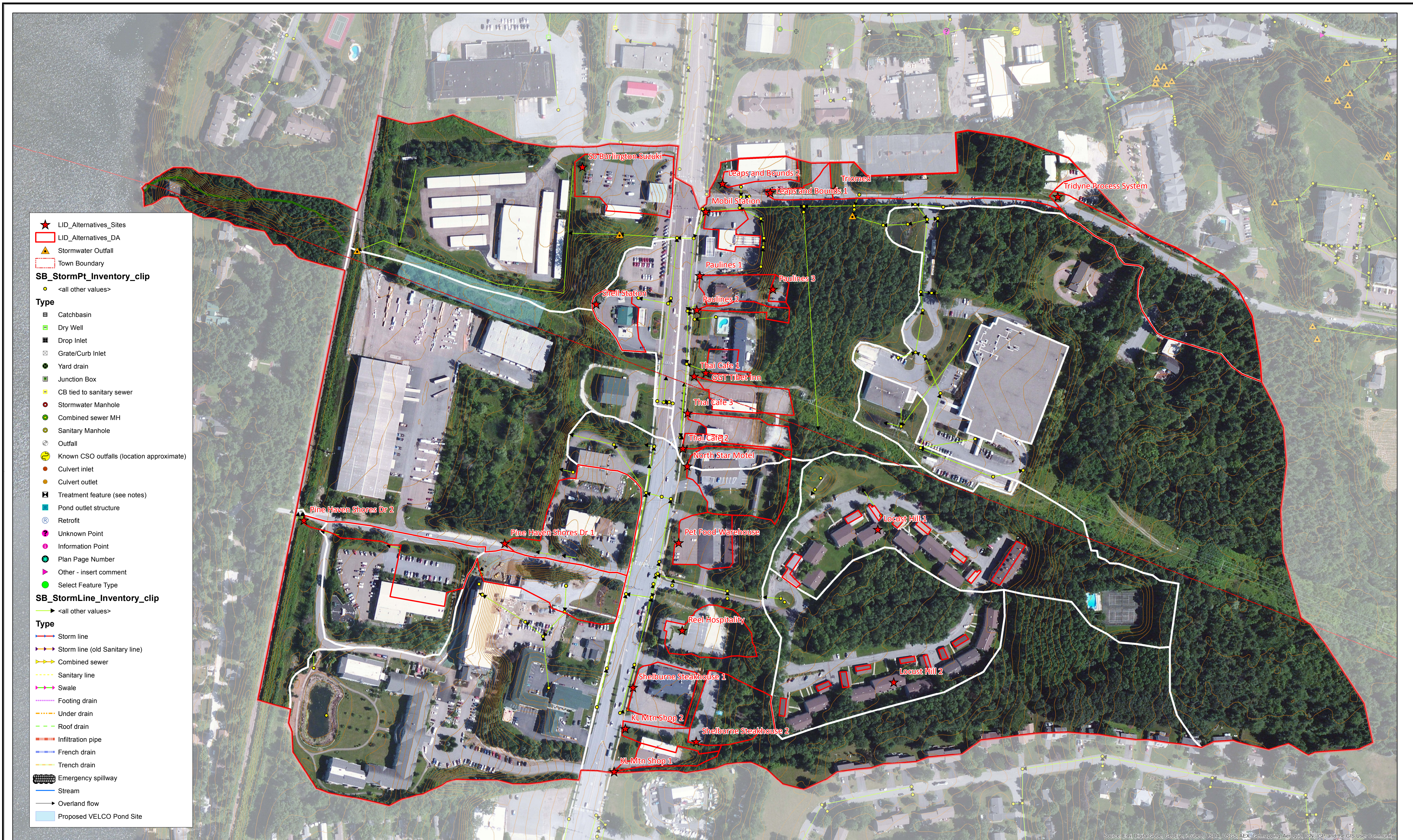
Andres Torizzo
WCA Principal



Joanie Stultz, E.I.
WCA Staff Engineer



Dana Allen
Water Quality Specialist



Pine Haven Shores
A-1: LID Alternatives Analysis Site Map

Site ID Code: GGT-TI	Site Rating: Good
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Name: GGT Tibet Inn

E911 Address:	1860 Shelburne Rd, So. Burlington, VT 05403
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Date/Time Assessed:	5-21-14 1:15PM
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Practice Concept:

Part of the Inn roof and parking lot drains to an existing open space. A bioretention practice could be built here to more complete hold and treat runoff.



Ownership:	Private
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Site Contact:	802.863.7110
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Photo Caption: Existing green space could be lowered and graded for bioretention.

LID Practice Details	Site Information
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Practice 1:	Bioretention	Site Landuse 1:	Open Space
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Practice 2:		Site Landuse 2:	Parking Lot
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Practice 3:		SW Practice On-Site?:	No
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New/Retrofit?:	New	Pollutant Hotspot?:	Possible
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Maintenance Burden:			Pollutant of Concern 1:	Dumpster Spillage
High	Medium	Low	Pollutant of Concern 2:	Sediment

Design Considerations:	Location:
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Drainage Area (ac):	0.17
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Impervious %:	81.85%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~1500
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Soils (mapped):	B
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Feasibility/Design Notes:

No re-grading necessary of parking lot. Would need to lower green space slightly. Velocity not a huge concern here - low gradient parking lot.



Coordinates:	-73.21172618	44.42086545
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Benefits		Constraints	
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Velocity Reduction?:	Yes	Soils?:	No
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Storage?:	Possible	Contamination?:	No
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Water Quality?:	Yes	Utilities?:	No
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Recharge?:	Possible	Access?:	No
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Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
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Community Engagment?:	Yes	Wetland?:	No
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Other?:		Other?:	
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Site ID Code: KLM1	Site Rating: Fair
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Name: KL Mountain Shop 1	
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E911 Address:	2613 Shelburne Road, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 2:20PM
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Practice Concept:	Runoff from the adjacent (closed) Shelburne Steakhouse parking lot runs on to the KL Mountain Shop property. It would be possible to ameliorate the existing open space with a swale to a small bioretention practice or to retrofit the site with a filter strip.
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Ownership:	Private
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Site Contact:	KL Mtn Shop 877.284.3270
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Photo Caption: Bioretention practice proposed site in foreground.

LID Practice Details		Site Information	
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Practice 1:	Vegetate Swale
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Practice 2:	Bioretention
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Practice 3:	Filter Strip
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New/Retrofit?:	New
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Site Landuse 1:	Open
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Site Landuse 2:	N/A
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	
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Design Considerations:		Location:	
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Drainage Area (ac):	0.3
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Impervious %:	64.30%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~1500
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Soils (mapped):	B
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Feasibility/Design Notes:	Would need to conduct minor re-grading of Shelburne Steakhouse parking lot to ensure runoff enters practice - could simply cut up pavement and drop grading by a few inches with a gravel diaphragm prior to a vegetate swale.
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Coordinates:	-73.21275768	44.41751351
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Possible	Bedrock/Water Table?:	WT - Possible
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: KLM2	Site Rating: Fair
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Name: KL Mountain Shop 2	
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E911 Address:	2613 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 2:25PM
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Practice Concept:	
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There is the opportunity here for a vegetated swale or small bioretention practice near the Shelburne Road R.O.W. The practice would take runoff from part of the building roof and parking lot.



Ownership:	Private
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Site Contact:	KL Mountain Shop 877.284.3270
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Photo Caption: The practice site would take runoff from both KL Mountain Shop and the adjacent Shelburne Steakhouse parking.

LID Practice Details			Site Information	
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Practice 1:	Vegetated Swale
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Practice 2:	Bioretention
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Practice 3:	N/A
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New/Retrofit?:	New
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Site Landuse 1:	Open
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Site Landuse 2:	N/A
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	Possible Dumpster Spillage
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Design Considerations:			Location:	
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Drainage Area (ac):	0.33
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Impervious %:	47.36%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~500
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Soils (mapped):	B
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Feasibility/Design Notes:	
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Site is constrained - there isn't much space between edge of pavement, sidewalk, and a catch basin. The practice would function largely for filtration and some infiltration. Grading to the site could be a small challenge.



Coordinates:	-73.2126301	44.41787499
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - Possible
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: LB1	Site Rating: Fair
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Name: Leaps and Bounds 1

E911 Address: 1820 Shelburne Rd, So. Burlington, VT 05403

Date/Time Assessed: 5-20-14 | 12:00PM

Practice Concept:

A small bioretention practice could be created in Allen Rd ROW / Leaps and Bounds property to capture Allen Road runoff and part of adjoining parking lot runoff. Would need to create armored swale inlet to account for high velocity flows off road.



Ownership: Private

Site Contact: 802.864.0044

Photo Caption: Site may be in ROW - would need to protect from erosion as runoff velocities already causing erosion.

LID Practice Details	Site Information
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Practice 1:	Armored/Vegetate Swale	Site Landuse 1:	ROW
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Practice 2:	Bioretention	Site Landuse 2:	Open Space
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Practice 3:		SW Practice On-Site?:	No
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New/Retrofit?:	New	Pollutant Hotspot?:	No
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Maintenance Burden:		Pollutant of Concern 1:	Sediment
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High	Medium	Low	Pollutant of Concern 2:	VOCs
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Design Considerations:	Location:
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Drainage Area (ac): 0.22

Impervious %: 65.18%

DA Usage: Transportation / Commercial

Practice Area (sq. ft.): ~1400

Soils (mapped): B

Feasibility/Design Notes:

Would need to account for potentially high runoff velocities from road runoff. Would need to re-grade site (minor). Would need to remove some existing landscaping (small trees) but could replace within bioretention practice.



Coordinates:	-73.21099044	44.42238211
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	Yes	Wetland?:	No
Other?:		Other?:	

Site ID Code: LB2	Site Rating: Fair
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Name: Leaps and Bounds 2

E911 Address: 1820 Shelburne Road, So. Burlington, VT 05403

Date/Time Assessed: 5-20-14 | 11:45AM

Practice Concept:
Part of the roof and parking lot drains to the SW corner of the parking lot bordering Shelburne Rd. Currently drains to a CB - could re-grade lot to direct flows to open space along Shelburne Rd and create an armored, terraced inlet to a bioretention practice.



Ownership: Private

Site Contact: 802.859.0044

Photo Caption: Some grading would need to be done make this site work.

LID Practice Details	Site Information
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Practice 1: Bioretention

Practice 2: Filter Strip

Practice 3:

New/Retrofit?:

Site Landuse 1: Open Space

Site Landuse 2:

SW Practice On-Site?: No

Pollutant Hotspot?: No

Maintenance Burden:

High	Medium	Low
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Pollutant of Concern 1: Sediment

Pollutant of Concern 2:

Design Considerations:	Location:
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Drainage Area (ac): 0.35

Impervious %: 98.43%

DA Usage: Commercial

Practice Area (sq. ft.): ~750

Soils (mapped): B

Feasibility/Design Notes:

Steep inlet grades - would have to be protected to slow flows and reduce potential erosion within bioretention practice. Part of the proposed retrofit area may be in Shelburne Rd. ROW.



Coordinates: -73.21155045 44.42245261

Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	Yes	Wetland?:	No
Other?:		Other?:	

Site ID Code: LH1	Site Rating: Fair
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Name: Locust Hill 1	
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E911 Address:	283-417 Locust Hill Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 3:00PM
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Practice Concept:

Rain Barrels or Cisterns could be used to reduce roof runoff flows going directl from roof gutters/downspouts onto pavement. Though there is an on-site stormwater system (sand filter) this alternative would provide for runoff detention and prolong the feasible lifetime of the sand filter.



Ownership:	Private (HOA)
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Site Contact:	Apple Tree Property Mgmt 802.863.6940
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Photo Caption: Any downspouts letting out directly on to pavement were considered in this proposed practice option.

LID Practice Details	Site Information
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Practice 1:	Rain Barrels
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Practice 2:	Cisterns
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Practice 3:	N/A
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New/Retrofit?:	New
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Site Landuse 1:	Residential Driveway
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Site Landuse 2:	
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SW Practice On-Site?:	Yes
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	Nutrients
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Design Considerations:	Location:
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Drainage Area (ac):	0.26
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Impervious %:	100.00%
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DA Usage:	Residential
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Practice Area (sq. ft.):	N/A
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Soils (mapped):	A/B/C
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Feasibility/Design Notes:

Residential rain barrels cost ~\$60 per barrel. Only rooftops giving directly onto pavement would need a barrel. Barrels come equipped with spigots for watering gardens, washing cars, etc. Many rooftops in this neighborhood are already effectively disconnected to gardens and/or lawns/open space.



Coordinates:	-73.20969811	44.41956484
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Benefits		Constraints	
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Velocity Reduction?:	No	Soils?:	No
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Storage?:	Yes	Contamination?:	No
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Water Quality?:	Yes	Utilities?:	No
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Recharge?:	No	Access?:	No
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Collateral Benefits?:	Yes	Bedrock/Water Table?:	No
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Community Engagment?:	Yes	Wetland?:	No
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Other?:		Other?:	
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Site ID Code: LH2	Site Rating: Fair
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Name: Locust Hill 2	
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E911 Address:	120-234 Locust Hill Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 3:00PM
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Practice Concept:	
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Rain Barrels or Cisterns could be used to reduce roof runoff flows going directl from roof gutters/downspouts onto pavement. Though there is an on-site stormwater system (sand filter) this alternative would provide for runoff detention and prolong the feasible lifetime of the sand filter.



Ownership:	Private (HOA)
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Site Contact:	Apple Tree Property Mgmt 802.863.6940
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Photo Caption: Any downspouts letting out directly on to pavement were considered in this proposed practice option.

LID Practice Details		Site Information	
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Practice 1:	Rain Barrels
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Practice 2:	Cisterns
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Practice 3:	N/A
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New/Retrofit?:	New
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Site Landuse 1:	Residential Driveway
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Site Landuse 2:	
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SW Practice On-Site?:	Yes
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	Nutrients
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Design Considerations:		Location:	
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Drainage Area (ac):	0.13
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Impervious %:	100.00%
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DA Usage:	Residential
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Practice Area (sq. ft.):	N/A
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Soils (mapped):	A/B/C
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Feasibility/Design Notes:	
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Residential rain barrels cost ~\$60 per barrel. Only rooftops giving directly onto pavement would need a barrel. Barrels come equipped with spigots for watering gardens, washing cars, etc. Many rooftops in this neighborhood are already effectively disconnected to gardens and/or lawns/open space.



Coordinates:	-73.20949684	44.41828523
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Benefits		Constraints	
Velocity Reduction?:	No	Soils?:	No
Storage?:	Yes	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	No	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	No
Community Engagment?:	Yes	Wetland?:	No
Other?:		Other?:	

Site ID Code: MS	Site Rating: Fair
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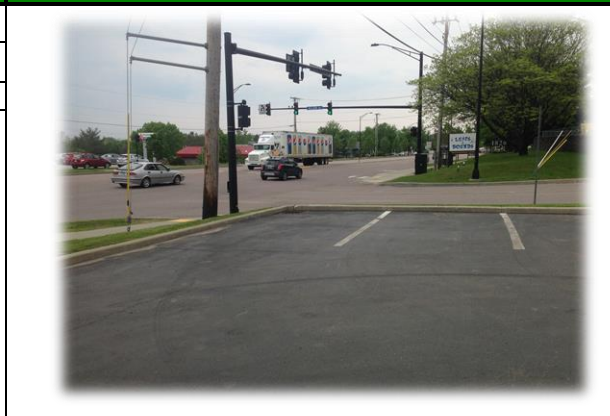
Name: Mobil Station

E911 Address: 977 Shelburne Rd, So. Burlington, VT 05403

Date/Time Assessed: 5-20-14 | 12:15PM

Practice Concept:

Site drains to the NW corner and catch basin there via overland flow (parking lot) and 4" pipe (roof/canopy runoff). Could install a dry well in the current catch basin location that would catch both surface and pipe runoff. Would have to remove some parking (1-2) spots.



Ownership: Private

Site Contact: 802.864.9654

Photo Caption: Proposed Practice Site.

LID Practice Details	Site Information
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Practice 1: Dry Well

Practice 2:

Practice 3:

New/Retrofit?: New

Maintenance Burden:

High	Medium	Low
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Site Landuse 1: Parking Lot

Site Landuse 2: Open Space

SW Practice On-Site?: No

Pollutant Hotspot?: Yes

Pollutant of Concern 1: VOCs

Pollutant of Concern 2: Sediment

Design Considerations:	Location:
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Drainage Area (ac): 0.29

Impervious %: 99.67%

DA Usage: Commercial

Practice Area (sq. ft.): ~380

Soils (mapped): Benefits

Feasibility/Design Notes:

Site grading works well, as does piped connection for roof/canopy. Some parking would have to potentially be removed (1-2 spaces). Could also construct part/all in Shelburne Rd ROW.



Coordinates: -73.21174323 44.42221682

Benefits		Constraints	
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Velocity Reduction?:	No	Soils?:	No
Storage?:	Yes	Contamination?:	Possible
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Yes	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: NSM	Site Rating: Good
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Name: North Star Motel	
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E911 Address:	2427 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 1:25PM
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Practice Concept:
 Could implement a small bioretention site in existing open space, possibly preceded by a low-gradient grass filter strip to slow flows and filter out parking lot sediment. Potential practice would capture nearly all of the parking lot and roof runoff.



Ownership:	Private
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Site Contact:	802.863.3421
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Photo Caption: Potential practice would have to remove some existing landscape features.

LID Practice Details		Site Information	
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Practice 1:	Bioretention
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Practice 2:	Filter Strip
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Practice 3:	
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New/Retrofit?:	New
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Site Landuse 1:	Open Space
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Site Landuse 2:	
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	Dumpster Spillage
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Design Considerations:		Location:	
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Drainage Area (ac):	1.31
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Impervious %:	51.18%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~700
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Soils (mapped):	B
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Feasibility/Design Notes:

Site drains entirely to open space to East of main motel building. Would need to remove some existing landscaping (small shrubs). Existing catch basins (2) could be capped to direct flow to bioretention or could remain to reduce drainage area to practice, depending on space needed pending modeled flows.



Coordinates:	-73.21193306	44.42008209
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: PC1	Site Rating: Fair
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Name: Paulines Café 1

E911 Address: 1834 Shelburne Rd, So. Burlington, VT 05403

Date/Time Assessed: 5-20-14 | 12:05PM

Practice Concept:

In the NW corner of the parking lot there is a curb cut that allows runoff to escape to Shelburne Rd. Could install curved curve with inlets to bioretention practice to capture and treat runoff. Would definitely want to use some sort of inlet structure to protect bioretention from runoff velocities from steep site (Rain Guardian or similar).



Ownership: Private

Site Contact: 802.862.1081

Photo Caption:

LID Practice Details	Site Information
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Practice 1:	Bioretention	Site Landuse 1:	Parking Lot
Practice 2:		Site Landuse 2:	
Practice 3:		SW Practice On-Site?:	No
New/Retrofit?:	New	Pollutant Hotspot?:	No
Maintenance Burden:		Pollutant of Concern 1:	Sediment
High	Medium	Low	Pollutant of Concern 2:

Design Considerations:	Location:
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Drainage Area (ac): 0.45

Impervious %: 80.48%

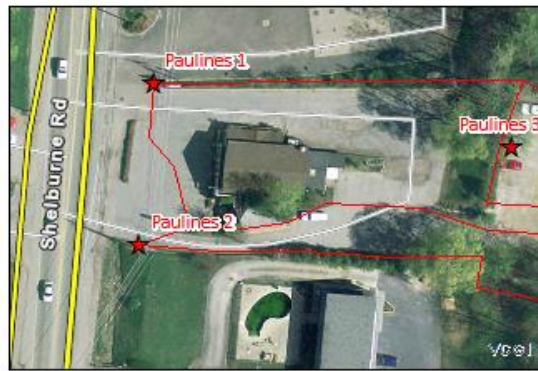
DA Usage: Commercial

Practice Area (sq. ft.): ~300

Soils (mapped): B

Feasibility/Design Notes:

Pavement would have to be removed on site. Truck delivery lane would have to be maintained. Need to verify with owners that no auxiliary parking occurs at potential practice location. Runoff velocity is an important consideration here - would need to protect bioretention site from that. The building itself is surrounded by small landscaped gardens - could encourage owners to disconnect rooftop runoff to gardens to reduce runoff volumes and velocities.



Coordinates: -73.21180618 44.42167985

Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	Yes	Wetland?:	No
Other?:		Other?:	

Site ID Code: PC2	Site Rating: Poor
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Name: Paulines Café 2	
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E911 Address:	1834 Shelburne Rd, Shelburne, VT 05403
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Date/Time Assessed:	5-20-14 12:15PM
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Practice Concept:

Could implemented a small bioretention area on site that would capture some of the access road and upper parking lot. Potential area for practice is constrained and steep in spots - could be a challenge to implement something here.



Ownership:	Private
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Site Contact:	802.862.1081
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Photo Caption: Steep and Constrained Area at Practice Site.

LID Practice Details	Site Information
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Practice 1:	Bioretention
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Practice 2:	Vegetated Swale
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Practice 3:	
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New/Retrofit?:	New
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Maintenance Burden:		
High	Medium	Low

Site Landuse 1:	Open Space
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Site Landuse 2:	
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	
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Design Considerations:	Location:
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Drainage Area (ac):	0.17
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Impervious %:	45.51%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~480
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Soils (mapped):	B
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Feasibility/Design Notes:

Tight, constrained space. Potentially high velocity flows coming off steep access road. Grading challenges for the potential practice. Maybe possible to construct in ROW or on adjoining property (GGT Tibet Inn).



Coordinates:	-73.21183746	44.42139257
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Benefits		Constraints	
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Velocity Reduction?:	Possible	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	Possible	Wetland?:	No
Other?:		Other?:	

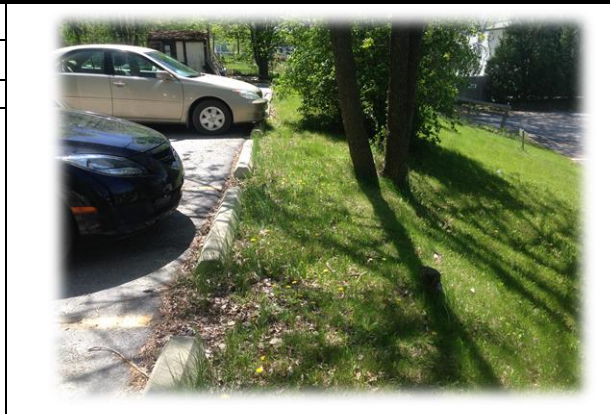
Site ID Code: PC3	Site Rating: Fair
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Name: Pauline's Café 3	
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E911 Address:	1834 Shelburne Rd, Shelburne, VT 05403
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Date/Time Assessed:	5-20-14 12:15PM
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Practice Concept:	Filter strip around perimeter of upper parking lot at Pauline's Café.
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Ownership:	Private
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Site Contact:	802.862.1081
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Photo Caption: Filter Strip Possible Location.

LID Practice Details		Site Information	
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Practice 1:	Filter Strip
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Practice 2:	
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Practice 3:	
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New/Retrofit?:	New
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Site Landuse 1:	Open Space
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Site Landuse 2:	Parking Lot
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	
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Design Considerations:		Location:	
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Drainage Area (ac):	0.08
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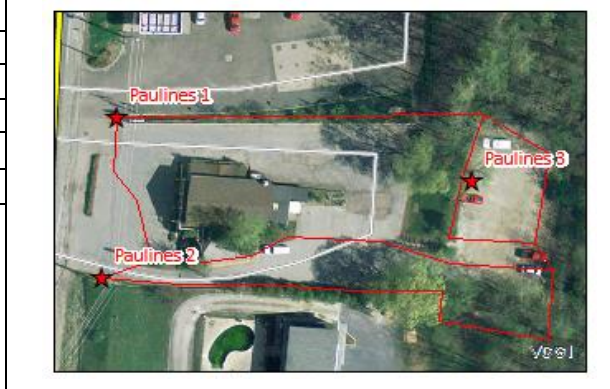
Impervious %:	86.30%
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DA Usage:	Commercial (Parking Lot)
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Practice Area (sq. ft.):	~800
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Soils (mapped):	B
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Feasibility/Design Notes:	May have to shorten some parking spaces/remove some pavement to achieve adequate width for filter strip. Little evidence of runoff from site currently - may not be a significant contributor to runoff volumes.
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Coordinates:	-73.21094766	44.42157124
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	No	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	No	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: PFW	Site Rating: Good
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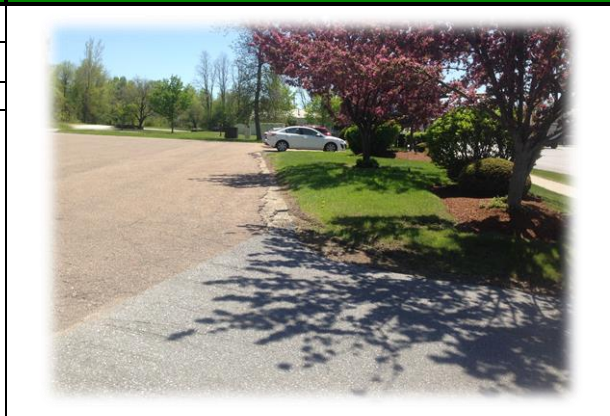
Name: Pet Food Warehouse	
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E911 Address:	2455 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 1:30PM
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Practice Concept:

There is potential on this site for a filter strip around the edge of the parking lot. The grading on site would easily direct most of the parking lot and roof flow to the strip. There is also adequate green space to install a bioretention practice in-series with the filter strip if desired.



Ownership:	Private
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Site Contact:	802.985.3302
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Photo Caption: Filter strip proposed location in the existing green space.

LID Practice Details	Site Information
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Practice 1:	Filter Strip
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Practice 2:	Bioretention
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Practice 3:	N/A
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New/Retrofit?:	New
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Site Landuse 1:	Open
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Site Landuse 2:	
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	VOCs
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Design Considerations:	Location:
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Drainage Area (ac):	0.61
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Impervious %:	90.47%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~1800
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Soils (mapped):	B
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Feasibility/Design Notes:

The on-site grading works well at this site - nearly the entire parking lot and half the pitched roof flows to the open green space. No utilities detected on site visit.



Coordinates:	-73.21202565	44.41943855
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Benefits		Constraints	
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Velocity Reduction?:	Yes	Soils?:	No
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Storage?:	Possible	Contamination?:	No
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Water Quality?:	Yes	Utilities?:	Possible
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Recharge?:	Possible	Access?:	No
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Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-1.5'
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Community Engagment?:	No	Wetland?:	No
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Other?:		Other?:	
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Site ID Code: PHSDr1	Site Rating: Good
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Name: Pine Haven Shores Drive 1

E911 Address:	N/A
Date/Time Assessed:	5-20-14 1:45PM
Practice Concept:	
Drainage from several buildings and parkings lots runs on to PHS Drive and turns out onto a small wet area - this area could be improved for velcocity reduction and water filtration.	



Ownership:	R.O.W.	Photo Caption: This is the end of the swale that could be improved and widened to provide treatment.
Site Contact:	Shelburne Town Public Works 802.985.5123	

LID Practice Details	Site Information
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Practice 1:	Vegetated Swale	Site Landuse 1:	Open
Practice 2:	Gravel Wetland	Site Landuse 2:	Transportation
Practice 3:	Bioretention	SW Practice On-Site?:	No
New/Retrofit?:	New	Pollutant Hotspot?:	Yes
Maintenance Burden:		Pollutant of Concern 1:	VOCs (car parts store)
High	Medium	Low	Pollutant of Concern 2: Sediment

Design Considerations:	Location:
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Drainage Area (ac):	1.91
Impervious %:	60.02%
DA Usage:	Commercial / Transportation
Practice Area (sq. ft.):	~3000
Soils (mapped):	C



Feasibility/Design Notes:
 Site is located in the road right of way. Water table is shallow - infiltration likely not possible. Practice design should focus on filtration. There is a large pull-off downhill of this site - additional SW practices could be designed for this space.

Coordinates:		
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	Possible
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 0-0.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: PHSDr2	Site Rating: Good
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Name: Pine Haven Shores Drive 2	
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E911 Address:	N/A
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Date/Time Assessed:	5-20-14 1:50PM
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Practice Concept:

Drainage from road and adjacent property collects in roadside ditches to a de-facto wetland-like area at the bottom of PHS Drive prior to the North-running ditch adjacent to the rail road tracks. This system of ditches and de-facto wetland could be turned into vegetate swale, regenerative stormwater conveyance (losing stream), or small gravel wetland.



Ownership:	R.O.W.
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Site Contact:	Shelburne Town Public Works 802.985.5123
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Photo Caption: This area is wet already - it could be improved to provide more treatment.

LID Practice Details	Site Information
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Practice 1:	Vegetate Swale
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Site Landuse 1:	Open
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Practice 2:	Regenerative Stormwater Conveyance
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Site Landuse 2:	N/A
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Practice 3:	Gravel Wetland
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SW Practice On-Site?:	No
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New/Retrofit?:	New
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
Pollutant of Concern 2:	Nutrients

Design Considerations:	Location:
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Drainage Area (ac):	2.57
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Impervious %:	49.22%
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DA Usage:	Transportation / Commercial / Residential
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Practice Area (sq. ft.):	~2500 (if arranged in-series)
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Soils (mapped):	D
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Feasibility/Design Notes:

Use of multiple sections of current ditch could be used for increased treatment. Check dams in ditch would help slow flow velocities. Soils are mapped HSG D - infiltration practices will likely not work. Depth to water table is mapped at between 0-0.5'. Some utilities (water line) may be present.



Coordinates:	-73.21641313	44.41959979
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Benefits		Constraints	
Velocity Reduction?:	Possible	Soils?:	Yes
Storage?:	No	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	No	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - Yes
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: RH	Site Rating: Good
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Name: Reel Hospitality

E911 Address: 2517 Shelburne Rd, Shelburne, VT 05482

Date/Time Assessed: 5-21-14 | 1:00PM

Practice Concept:

Parking lot drains via sheet flow to existing open space behind Reel Hospitality building. Could construct a filter strip or vegetated swale to bioretention to store and filter runoff on site.



Ownership: Private

Site Contact: 802.945.8074

Photo Caption: A filter strip or bioretention practice around the perimeter would slow flow and infiltrate runoff.

LID Practice Details	Site Information
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Practice 1:	Filter Strip	Site Landuse 1:	Open Space
Practice 2:	Vegetate Swale	Site Landuse 2:	Parking
Practice 3:	Bioretention	SW Practice On-Site?:	No
New/Retrofit?:	New	Pollutant Hotspot?:	No
Maintenance Burden:		Pollutant of Concern 1:	Sediment
High	Medium	Low	Pollutant of Concern 2:

Design Considerations:	Location:
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Drainage Area (ac): 0.77

Impervious %: 64.29%

DA Usage: Commercial

Practice Area (sq. ft.): ~1200

Soils (mapped): B

Feasibility/Design Notes:

Parking lot wouldn't require re-grading. Existing lawn collects some roof runoff - could create channels to collect all of it.



Coordinates: -73.21197506 44.41870355

Benefits		Constraints	
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Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: SS1	Site Rating: Good
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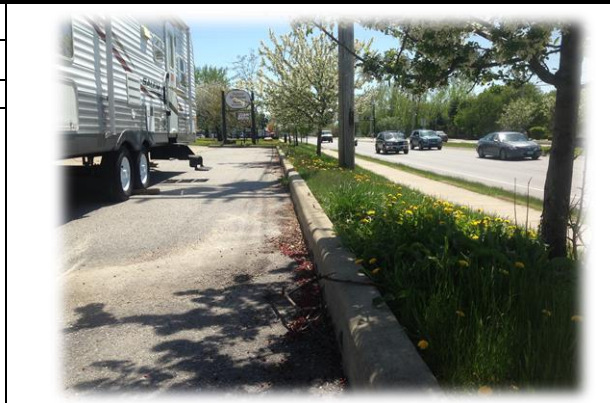
Name: Shelburne Steakhouse 1

E911 Address: 2545 Shelburne Rd, Shelburne, VT 05482

Date/Time Assessed: 5-20-14 | 2:10PM

Practice Concept:

Parts of the building roof and parking flow directly to a curbed greenspace. If curbe was cut or removed entirely, the green space widened to allow for more surface area, and the substrate/landscaping improved, an effective bioretention or filter strip practice could be created.



Ownership: Private

Site Contact: 802.985.5009

Photo Caption: Existing green space would have to be widened. May be on ROW.

LID Practice Details	Site Information
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Practice 1: Bioretention

Practice 2: Filter Strip

Practice 3:

New/Retrofit?: New

Site Landuse 1: Open

Site Landuse 2: Parking Lot

SW Practice On-Site?: No

Pollutant Hotspot?: No

Maintenance Burden:

High	Medium	Low
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Pollutant of Concern 1: Sediment

Pollutant of Concern 2:

Design Considerations:	Location:
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Drainage Area (ac): 0.67

Impervious %: 95.29%

DA Usage: Parking Lot / Building Footprint

Practice Area (sq. ft.): ~1800

Soils (mapped): B

Feasibility/Design Notes:

Actual on-site green space is somewhat constrained. Would require removing some pavement and parking. Slight slop from lot to road would require potential terracing/buttressing of downhill slope towards road. Restaurant is currently closed - contacting landowner could be difficult.



Coordinates: -73.21180196 44.41777179

Benefits	Constraints
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Velocity Reduction?:	No	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - Possible
Community Engagment?:	Yes	Wetland?:	No
Other?:		Other?:	

Site ID Code: SS2	Site Rating: Good
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Name: Shelburne Steakhouse 2	
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E911 Address: 2545 Shelburne Road, Shelburne, VT 05482

Date/Time Assessed: 5-20-14 | 2:15PM

Practice Concept:

The upper parking lot at the (closed?) Shelburne Steakhouse drains to the center and flows South towards the KL Mountain Shop. Site could be retrofitted with a bioretention practice or a filter strip to detain the runoff on-site. It could be a very simple practice consisting of an improved substrate with no significant landscaping at the surface to reduce maintenance burden.



Ownership: Private

Site Contact: 802.985.5009

Photo Caption: Existing Parking drains to an open area.

LID Practice Details	Site Information
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Practice 1: Bioretention

Practice 2: Filter Strip

Practice 3: N/A

New/Retrofit?: New

Site Landuse 1: Parking

Site Landuse 2: Open

SW Practice On-Site?: No

Pollutant Hotspot?: No

Maintenance Burden:

High	Medium	Low
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Pollutant of Concern 1: Sediment

Pollutant of Concern 2:

Design Considerations:	Location:
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Drainage Area (ac): 0.98

Impervious %: 31.21%

DA Usage: Forest/Parking Lot

Practice Area (sq. ft.): ~1200

Soils (mapped): B/C

Feasibility/Design Notes:

Site drains to S end of lot via center of lot. Could remove some pavement at end of lot (~4 spaces) and improve the substrate or loosen existing to encourage infiltration. Site is low-gradient.



Coordinates: -73.2125466 44.4182205

Benefits	Constraints
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Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Yes	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Yes	Access?:	No
Collateral Benefits?:	Possible	Bedrock/Water Table?:	WT - Possible
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: SS	Site Rating: Good
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Name: Shell Station	
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E911 Address:	1855 Shelburne Rd, So. Burlington, VT 05403
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Date/Time Assessed:	5-20-14 12:50PM
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Practice Concept:

Most of the parking lot and part of the service station roof drains via sheet flow to the perimeter of the lot before running over a steep bank. Could install a filter strip with amended substrate to increase infiltration and slow flow velocities.



Ownership:	Private
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Site Contact:	802.658.0332
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Photo Caption: Some widening and soil amendment would be necessary to make this site work better.

LID Practice Details	Site Information
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Practice 1:	Filter Strip
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Practice 2:	
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Practice 3:	
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New/Retrofit?:	New
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Maintenance Burden:		
High	Medium	Low

Site Landuse 1:	Parking Lot
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Site Landuse 2:	Open Space
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	Yes
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Pollutant of Concern 1:	VOCs
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Pollutant of Concern 2:	Sediment
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Design Considerations:	Location:
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Drainage Area (ac):	0.43
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Impervious %:	90.81%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~3000
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Soils (mapped):	C
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Feasibility/Design Notes:

Some curbing on N side of perimeter necessary to direct flows to part of the filter strip. Would need to remove some pavement to increase existing open space to allow for adequate filter strip width (5-10'). Would need to amend soils with higher infiltration rate soils/substrate as on-site soils are C. Generally drainage to proposed practice area is good. Potential to remove hot spot pollutants.



Coordinates:	-73.21301532	44.42143378
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	Yes
Storage?:	No	Contamination?:	Possible
Water Quality?:	Yes	Utilities?:	Possible (USTs)
Recharge?:	No	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 0-1.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: SBS	Site Rating: Good
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Name: South Burlington Suzuki	
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E911 Address:	1835 Shelburne Rd, Shelburne, VT 05403
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Date/Time Assessed:	5-20-14 12:40PM
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Practice Concept:
 This car dealership lot ultimately drains to a small open area on the W perimeter of the lot before entering an existing swale above Burlington Self Storage. The upper lot runoff escapes to the road, but returns to the open area/swale from the road. The lower lot drains directly to the open area and then to the swale. The upper lot runoff could be directed into an armored/vegetated swale, then directed into either a bioretention area or into the existing swale after having been slowed and filtered. The lower lot could be directed to a filter strip prior to a bioretention practice or the existing swale. The existing swale could be improved with a wider bottom channel, check dams, etc.



Ownership:	Private
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Site Contact:	802.865.4400
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Photo Caption: Open space could become bioretention or existing swale could be improved.

LID Practice Details		Site Information	
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Practice 1:	Vegetated/Armored Swale	Site Landuse 1:	Open Space
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Practice 2:	Filter Strip	Site Landuse 2:	
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Practice 3:	Bioretention	SW Practice On-Site?:	Yes
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New/Retrofit?:	New AND Retrofit Possible On-Site	Pollutant Hotspot?:	Yes
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Maintenance Burden:		Pollutant of Concern 1:	VOCs
High	Medium	Low	Pollutant of Concern 2: Sediment

Design Considerations:		Location:	
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Drainage Area (ac):	1.1
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Impervious %:	79.20%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~3500
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Soils (mapped):	C
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Feasibility/Design Notes:
 Possible to create two practices on site - an armored/vegetate swale for the upper lot runoff escaping to the road to slow and pre-treat it prior to it entering a bioretention area, and a filter strip/bioretention combination for the lower lot runoff. There is also the possibility to ameliorate the existing swale to filter and slow runoff before draining farther downstream. Infiltration could be an issue with this site (HSG C soils). May be utilities on site. Soils may be contaminated from car dealership lot.



Coordinates:	-73.21319072	44.42258217
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	Yes
Storage?:	Possible	Contamination?:	Possible
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 0-1.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: TC1	Site Rating: Poor
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Name: Thai Café 1	
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E911 Address:	2383 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 1:00PM
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Practice Concept:	
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Parking lot could be re-graded to drain to a bioretention practice on the Shelburne Road side of the building (currently for sale - may or may not be affiliated with the Thai Café or possibly Timberlane Dental Group). Currently parking lot at NW corner of the drainage area slopes away from the building and escapes to the street - potentially significant re-grading would need to be performed to direct runoff to the open space in front of the building.



Ownership:	Private
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Site Contact:	Unknown (lot adjacent to Thai Café - for sale)
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Photo Caption: Photo shows one potential site for SW practice. Drainage Area outlet point is across from photo point.

LID Practice Details		Site Information	
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Practice 1:	Bioretention
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Site Landuse 1:	Parking Lot
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Practice 2:	
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Site Landuse 2:	Open Space
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Practice 3:	
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SW Practice On-Site?:	No
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New/Retrofit?:	New
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
Pollutant of Concern 2:	

Design Considerations:		Location:	
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Drainage Area (ac):	0.49
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Impervious %:	85.09%
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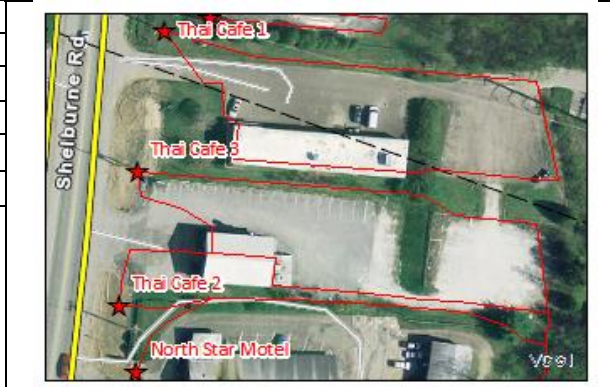
DA Usage:	Commercial
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Practice Area (sq. ft.):	~1200
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Soils (mapped):	B
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Feasibility/Design Notes:	
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Practice could require significant re-grading of parking lot. Installation of bioretention could also require lowering existing green space to achieve proper elevations for runoff collection. Site is currently for sale - ownership/contact information unknown.



Coordinates:	-73.21186116	44.4208369
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	Possible
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: TC2	Site Rating: Poor
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Name: Thai Café 2	
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E911 Address:	2383 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 1:20PM
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Practice Concept:

It would be possible to capture part of the roof runoff from the Thai Café in a low-gradient grass swale ending in a bioretention practice. The drainage area is relatively small and the roof drains to an existing grass swale and likely does not significantly affect runoff volume from the site.



Ownership:	Private
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Site Contact:	802.497.3288
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Photo Caption: Site is small, but potentially feasible.

LID Practice Details	Site Information
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Practice 1:	Vegetated Swale	Site Landuse 1:	Open Space
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Practice 2:	Bioretention	Site Landuse 2:	Parking
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Practice 3:		SW Practice On-Site?:	No
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New/Retrofit?:	New	Pollutant Hotspot?:	No
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Maintenance Burden:			Pollutant of Concern 1:	
High	Medium	Low	Pollutant of Concern 2:	

Design Considerations:	Location:
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Drainage Area (ac):	0.16
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Impervious %:	45.97%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~700
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Soils (mapped):	B
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Feasibility/Design Notes:

Drainage area is small and drains to natural grass swale - may not affect overall runoff volumes. Proposed practice area may be on adjoining property (North Star Motel). If Bioretention was added, would have to remove 1-2 parking spaces.



Coordinates:	-73.21198613	44.42022862
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Possible	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Possible	Access?:	No
Collateral Benefits?:	Yes	Bedrock/Water Table?:	WT - 1-3.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: TC3	Site Rating: Fair
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Name: Thai Café 3	
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E911 Address:	2383 Shelburne Rd, Shelburne, VT 05482
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Date/Time Assessed:	5-20-14 1:15PM
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Practice Concept:

The majority of the Bangkok Minute Thai Café parking lot and roof drains to the NE corner of the lot. It would be possible to create a dry well or stormwater infiltration chamber at that location underneath the existing sign. There wouldn't necessarily be a need for re-grading of the lot, but the sign would have to be temporarily removed and some parking spaced would be lost (2-4).



Ownership:	Private
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Site Contact:	802.497.3288
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Photo Caption: Proposed practice site is under the existing sign.

LID Practice Details			Site Information	
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Practice 1:	Dry Well
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Practice 2:	Infiltration Chambers
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Practice 3:	
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New/Retrofit?:	New
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Maintenance Burden:		
High	Medium	Low

Site Landuse 1:	Parking Lot
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Site Landuse 2:	Open Space
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SW Practice On-Site?:	No
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Pollutant Hotspot?:	No
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Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	Dumpster Spillage
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Design Considerations:			Location:	
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Drainage Area (ac):	0.48
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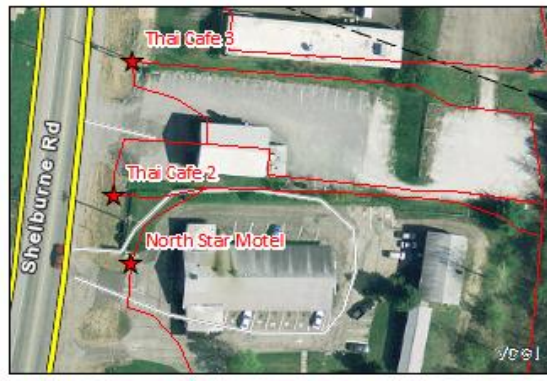
Impervious %:	90.27%
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DA Usage:	Commercial
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Practice Area (sq. ft.):	~400
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Soils (mapped):	B
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Feasibility/Design Notes:



Coordinates:	-73.21193469	44.42052655
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Benefits		Constraints	
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Velocity Reduction?:	No	Soils?:	No
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Storage?:	Yes	Contamination?:	No
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Water Quality?:	Yes	Utilities?:	Possible
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Recharge?:	Yes	Access?:	No
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Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 1-3.5'
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Community Engagment?:	No	Wetland?:	No
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Other?:		Other?:	
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Site ID Code: TPS	Site Rating: Good
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Name: Tridyne Process Systems

E911 Address: 80 Allen Rd, So. Burlington, VT 05403

Date/Time Assessed: 5-20-14 | 11:25AM

Practice Concept:

The existing ditch alongside Allen Road is already wet and eroding - a new swale with check dams, ameliorated infiltrative substrate, rip-rap or hardy vegetation with a flatter profile would slow runoff, increase infiltration and decrease erosion.



Ownership: Road R.O.W. | Private

Site Contact: Susith Wijetunga | 802.863.6873

Photo Caption: Site may be in ROW. Swale could be improved to provide velocity reduction and treatment.

LID Practice Details	Site Information
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Practice 1:	Swale	Site Landuse 1:	Open
Practice 2:	Bioretention	Site Landuse 2:	N/A
Practice 3:	N/A	SW Practice On-Site?:	No
New/Retrofit?:		Pollutant Hotspot?:	No
Maintenance Burden:		Pollutant of Concern 1:	Sediment
High	Medium	Low	Pollutant of Concern 2: VOCs

Design Considerations:	Location:
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Drainage Area (ac): 2.65

Impervious %: 81.85%

DA Usage: Transportation

Practice Area (sq. ft.): ~2,000

Soils (mapped): A / C

Feasibility/Design Notes:

It is possible to build two distinct swales in this location within the right of way, connected by an existing culvert underneath the access drive for Tridyne Process Systems. No utilities present. The practice would take drainage from a large portion of Allen Road and would serve to slow down flow velocities, decreasing downhill erosion. There is a large parcel of undeveloped land West of Tridyne that could be used to outlet overflow from swales, if any.



Coordinates: -73.20762651 44.42236797

Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	No	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Yes	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	

Site ID Code: TM	Site Rating: Good
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Name: Triomed	
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E911 Address:	40 Allen Rd, So. Burlington, VT 05403
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Date/Time Assessed:	5-20-14 11:30AM
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Practice Concept:	
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Possible to create a larger vegetate swale to a bioretention practice on this site (open space between two parking areas). Site is nearly flat - runoff from Allen Road and some adjacent parking lots could be turned into this area.



Ownership:	Private
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Site Contact:	877.603.1312
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Photo Caption: Runoff could be turned out into the flat open space to provide treatment and infiltration

LID Practice Details		Site Information	
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Practice 1:	Vegetate Swale
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Site Landuse 1:	Open Space
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Practice 2:	Bioretention
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Site Landuse 2:	Transportation ROW
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Practice 3:	
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SW Practice On-Site?:	No
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New/Retrofit?:	New
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Pollutant Hotspot?:	No
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Maintenance Burden:		
High	Medium	Low

Pollutant of Concern 1:	Sediment
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Pollutant of Concern 2:	VOCs
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Design Considerations:		Location:	
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Drainage Area (ac):	2.15
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Impervious %:	20.78%
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DA Usage:	Commercial / Transportation
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Practice Area (sq. ft.):	~3000
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Soils (mapped):	B
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Feasibility/Design Notes:	
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Would have to do some minor re-grading to direct runoff to site. Water table may be a concern here. There is adequate open space to do a larger bioretention project - could rely more on evapotranspiration by planting trees and creating shallow temporary ponding than infiltration to reduce volumes.



Coordinates:	-73.21022953	44.42241377
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Benefits		Constraints	
Velocity Reduction?:	Yes	Soils?:	No
Storage?:	Yes	Contamination?:	No
Water Quality?:	Yes	Utilities?:	No
Recharge?:	Yes	Access?:	No
Collateral Benefits?:	No	Bedrock/Water Table?:	WT - 0-1.5'
Community Engagment?:	No	Wetland?:	No
Other?:		Other?:	